

Journal of Applied Microbiology and Biotechnology

Mini-review

Bacteria associated with cockroaches: health risk or biotechnological opportunity?

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Online Resource 1. List of extant cockroach genera.

Superfamily	Family	Subfamily	Genera (number of species)
Blaberoidea (3596)	Blaberidae (1242)	Blaberinae	<i>Archimandrita</i> (2), <i>Aspiduchus</i> (4), <i>Bionoblatta</i> (4), <i>Blaberus</i> (19), <i>Blaptica</i> (17), <i>Byrsotria</i> (3), <i>Eubablerus</i> (9), <i>Hemiblabera</i> (7), <i>Hiereoblatta</i> (1), <i>Hormetica</i> (15), <i>Hyporichnoda</i> (6), <i>Lucihormetica</i> (11), <i>Minablatta</i> (3), <i>Monachoda</i> (4), <i>Monastria</i> (4), <i>Neorhincnoda</i> (1), <i>Oxycercus</i> (1), <i>Paradicta</i> (2), <i>Parahormetica</i> (5), <i>Petasodes</i> (3), <i>Phoetalia</i> (2), <i>Sibylloblatta</i> (2), <i>Styphon</i> (1)
		Diplopterinae	<i>Diploptera</i> (9)
		Epilamprinae	<i>Africalolampra</i> (1), <i>Alpheliax</i> (1), <i>Anisolampra</i> (1), <i>Antioquita</i> (2), <i>Aptera</i> (2), <i>Apsidopis</i> (2), <i>Ataxigamia</i> (2), <i>Audreia</i> (7), <i>Blepharoderia</i> (2), <i>Calolampra</i> (28), <i>Calolamprodes</i> (8), <i>Capucinella</i> (2), <i>Cariacasia</i> (1), <i>Colapteroblatta</i> (15), <i>Comptolampra</i> (1), <i>Cyrtonotula</i> (4), <i>Decoralampra</i> (1), <i>Dryadoblatta</i> (2), <i>Epilampra</i> (70), <i>Galilatta</i> (2), <i>Gurneya</i> (1), <i>Haanina</i> (11), <i>Homalopteryx</i> (2), <i>Howintoniella</i> (1), <i>Indoapterolampra</i> (1), <i>Litopeltis</i> (12), <i>Miroblatta</i> (2), <i>Molytria</i> (3), <i>Morphna</i> (12), <i>Notolampra</i> (3), <i>Opisthoplatia</i> (2), <i>Orchidoeca</i> (1), <i>Paracolamprodes</i> (1), <i>Phlebonotus</i> (2), <i>Phoraspis</i> (14), <i>Pinaconota</i> (4), <i>Placoblatta</i> (1), <i>Princisola</i> (2), <i>Poeciloderrhis</i> (16), <i>Pseudophoraspis</i> (18), <i>Stictolampra</i> (18), <i>Rhabdoblatta</i> (151), <i>Rhabdoblattella</i> (4), <i>Rhincnoda</i> (4), <i>Thorax</i> (1), <i>Ylangella</i> (1)
		Geoscapheinae	<i>Geoscapheus</i> (6), <i>Macropanesthia</i> (14), <i>Neogeoscapheus</i> (4), <i>Parapanesthia</i> (2)
		Gyninae	<i>Alloblatta</i> (5), <i>Gyna</i> (31), <i>Paraprinciparia</i> (1), <i>Principaria</i> (3), <i>Pseudocalolampra</i> (3)
		Oxyhaloinae	<i>Aeluroblatta</i> (1), <i>Ateloblatta</i> (3), <i>Brachynauphoeta</i> (6), <i>Coleoblatta</i> (1), <i>Elliptorrhina</i> (10), <i>Griffiniella</i> (4), <i>Gromphadorhina</i> (4), <i>Heminauphoeta</i> (2), <i>Henschoutedenia</i> (12), <i>Jagrehnia</i> (11), <i>Leozehntnera</i> (1), <i>Nauphoeta</i> (1), <i>Oxyhaloa</i> (10), <i>Princisa</i> (1), <i>Pronauphoeta</i> (4), <i>Rhyparobia</i> (7), <i>Simandoa</i> (1)
		Panchlorinae	<i>Achroblatta</i> (1), <i>Anchoblatta</i> (1), <i>Biolleya</i> (1), <i>Panchlora</i> (49), <i>Pelloblatta</i> (2)
		Panesthiinae	<i>Ancaudellia</i> (20), <i>Annamoblatta</i> (1), <i>Caeparia</i> (5), <i>Microdina</i> (1), <i>Miopanesthia</i> (8), <i>Panesthia</i> (59), <i>Salganea</i> (47)
		Paranauphoetinae	<i>Paranauphoeta</i> (22)
		Perisphaerinae	<i>Bantu</i> (6), <i>Compsagis</i> (3), <i>Corydidarum</i> (21), <i>Cyrtotria</i> (22), <i>Derocalymma</i> (16), <i>Ellipsica</i> (6), <i>Elliptoblatta</i> (13), <i>Glomerexis</i> (1), <i>Gymnonyx</i> (2), <i>Hostilia</i> (3), <i>Hyposphaeria</i> (24), <i>Laxta</i> (13), <i>Neolaxta</i> (3), <i>Perisphaerus</i> (17), <i>Pilema</i> (13), <i>Platysilpha</i> (3), <i>Poeciloblatta</i> (1), <i>Pseudoglomeris</i> (3), <i>Zuluia</i> (5)
		Pycnoscelinae	<i>Proscratea</i> (3), <i>Pynoscelus</i> (15), <i>Stilpnoblatta</i> (3)
		Zetoborinae	<i>Alvarengaea</i> (1), <i>Capucina</i> (1), <i>Lanxoblatta</i> (7), <i>Parasphaeria</i> (5), <i>Phorioeca</i> (7), <i>Phortioecoides</i> (1), <i>Schistopeltis</i> (3), <i>Schizopilia</i> (2), <i>Schultesia</i> (2), <i>Thanatophyllum</i> (1), <i>Tribonium</i> (14), <i>Tribonoidea</i> (1), <i>Zetobora</i> (6), <i>Zetoborella</i> (1)
		-	<i>Apotrogia</i> (3), <i>Cacoblatta</i> (1), <i>Cerocardia</i> (1), <i>Diploptera</i> (2), <i>Elfriada</i> (1), <i>Eustegasta</i> (16), <i>Evea</i> (1), <i>Glyptopeltis</i> (2), <i>Gynopeltis</i> (3), <i>Hedaia</i> (1), <i>Isonicus</i> (3), <i>Kemneria</i> (1), <i>Mesoblaberus</i> (1), <i>Mioblatta</i> (1), <i>Paraplecta</i> (5), <i>Phenacisma</i> (2), <i>Progonogamia</i> (1), <i>Pseudogynia</i> (1), <i>Pseudoplatia</i> (1), <i>Stenoblatta</i> (1), <i>Stictomorpha</i> (2), <i>Thliptoblatta</i> (1), <i>Thoracopygia</i> (1)
Ectobiidae (2354)		Blattellinae	<i>Anallacta</i> (12), <i>Anaplectella</i> (18), <i>Anaplectoidea</i> (13), <i>Aseucina</i> (1), <i>Asiablatta</i> (1), <i>Astylella</i> (2), <i>Attaphila</i> (6), <i>Beybienkoia</i> (22), <i>Blattella</i> (52), <i>Burchellia</i> (5), <i>Caboverdea</i> (2), <i>Caffroblatta</i> (2), <i>Cahita</i> (9), <i>Calhypnorna</i> (5), <i>Carbrunneria</i> (18), <i>Chorisia</i> (1), <i>Chrastoblatta</i> (2), <i>Chromatonotus</i> (14), <i>Dasyblatta</i> (8), <i>Dethieridris</i> (3), <i>Dewitteaa</i> (2), <i>Dyakinodes</i> (7), <i>Eowlsonia</i> (3), <i>Episymploce</i> (72), <i>Escala</i> (12), <i>Euandroblatta</i> (19), <i>Eudromiella</i> (9), <i>Euhypnorna</i> (1), <i>Haplosymploce</i> (11), <i>Hemithyrsocera</i> (69), <i>Hensaussurea</i> (11), <i>Hololeptoblatta</i> (2), <i>Hoplophoropyga</i> (8), <i>Hypnorna</i> (2), <i>Ignabolivaria</i> (2), <i>Ischnoptera</i> (100), <i>Jacobsonina</i> (13), <i>Johnrehnia</i> (36), <i>Keyella</i> (2), <i>Litoblatta</i> (11), <i>Loboptera</i> (32), <i>Lobopterella</i> (3), <i>Lobopteromorpha</i> (5), <i>Malaccina</i> (10), <i>Mayottella</i> (1), <i>Miriamrothschildia</i> (6), <i>Moluchia</i> (6), <i>Nelipophygus</i> (4), <i>Neoloboptera</i> (6), <i>Neoloboptermorpha</i> (1), <i>Neotemnopteryx</i> (14), <i>Neotrogloblattella</i> (1), <i>Nesomylacris</i> (7), <i>Nondewitteea</i> (1), <i>Ornatiblatta</i> (1), <i>Parasigmoidella</i> (38), <i>Paratemnopteryx</i> (13), <i>Parcoblatta</i> (12), <i>Parectoneura</i> (1), <i>Phymatosilpha</i> (1), <i>Pseudoanaplectinia</i> (1), <i>Pseudoceratinoptera</i> (2), <i>Pseudomops</i> (44), <i>Pseudosigmella</i> (2), <i>Pseudothyrsocera</i> (13), <i>Robshelfordia</i> (13), <i>Saltoblattella</i> (1), <i>Scalida</i> (5), <i>Sigmella</i> (23), <i>Stayella</i> (8), <i>Symploce</i> (64), <i>Symplocodes</i> (8), <i>Tartaroblatta</i> (5), <i>Temnopteryx</i> (7), <i>Termitoblatta</i> (3), <i>Trogloblattella</i> (1), <i>Xestoblatta</i> (44), <i>Xosabllatta</i> (13)
		Ectobiinae	<i>Arbiblatta</i> (9), <i>Capraielius</i> (3), <i>Choristima</i> (12), <i>Ectobius</i> (68), <i>Ectoneura</i> (21), <i>Luridoblatta</i> (3), <i>Phyllodromica</i> (97), <i>Planuncus</i> (13), <i>Pseudectoneura</i> (1), <i>Stenectoneura</i> (5), <i>Theganopteryx</i> (31)
		Nyctiborinae	<i>Eunyctibora</i> (5), <i>Eushelfordia</i> (2), <i>Eushelfordiella</i> (1), <i>Megaloblatta</i> (4), <i>Muzoa</i> (3), <i>Nyctantonina</i> (2), <i>Nyctibora</i> (30), <i>Paramuzoa</i> (4), <i>Paratropes</i> (13), <i>Pseudischnotoptera</i> (3)
		Pseudophyllondromiinae	<i>Afrobalta</i> (2), <i>Afroneura</i> (1), <i>Aglaopteryx</i> (11), <i>Agmoblatta</i> (1), <i>Allacta</i> (41), <i>Amazonina</i> (18), <i>Apteroblatta</i> (5), <i>Arawakina</i> (1), <i>Asemoblattana</i> (2), <i>Balta</i> (91), <i>Cariblatta</i> (77), <i>Cariblattoides</i> (13), <i>Ceratinoptera</i> (16), <i>Chorisoblatta</i> (16), <i>Chorisomaculata</i> (1), <i>Chorisoneura</i> (92), <i>Chorisoneurodes</i> (2), <i>Chorisoserrata</i> (3), <i>Delosia</i> (2), <i>Dendroblatta</i> (16), <i>Desmosia</i> (1), <i>Doradoblatta</i> (1), <i>Ellipsidion</i> (18), <i>Epibalta</i> (1), <i>Euphyllodromia</i> (44), <i>Euthlastoblatta</i> (9), <i>Helgaia</i> (17), <i>Hypnornoides</i> (2), <i>Imblattella</i> (13), <i>Isoldaia</i> (1), <i>Lanta</i> (3), <i>Latiblattella</i> (18), <i>Leuropeltis</i> (6), <i>Lophoblatta</i> (13), <i>Lupparia</i> (15), <i>Macrophyllodromia</i> (12), <i>Margattea</i> (48), <i>Margatteoidea</i> (6), <i>Matabelinia</i> (13), <i>Mediastinia</i> (3), <i>Megamareta</i> (9), <i>Nahublattella</i> (17), <i>Neoblattella</i> (39),

			<i>Pachnepteryx</i> (4), <i>Paranocticola</i> (2), <i>Phidon</i> (4), <i>Plectoptera</i> (25), <i>Prosoplecta</i> (20), <i>Pseudectobia</i> (1), <i>Pseudobalta</i> (3), <i>Pseudophyllodromia</i> (8), <i>Pseudosymploce</i> (4), <i>Rhytidometopum</i> (3), <i>Riatia</i> (21), <i>Shelfordina</i> (26), <i>Sliferia</i> (4), <i>Sorineuchora</i> (11), <i>Squamoptera</i> (3), <i>Sundablatta</i> (4), <i>Supella</i> (10), <i>Supellina</i> (3), <i>Tagaloblatta</i> (1), <i>Tomeisneria</i> (2), <i>Trioblattella</i> (7)
		-	<i>Africablatta</i> (1), <i>Akanoblatta</i> (1), <i>Alsteinia</i> (4), <i>Anareolaria</i> (1), <i>Aneurinita</i> (3), <i>Anisopygia</i> (4), <i>Antitheton</i> (1), <i>Aphlebiella</i> (1), <i>Aruistra</i> (1), <i>Astylloblatta</i> (1), <i>Atticola</i> (1), <i>Blattellina</i> (1), <i>Caloblatta</i> (4), <i>Celeriblattina</i> (2), <i>Ceuthobia</i> (3), <i>Ceuthobiella</i> (2), <i>Dictyoblattella</i> (1), <i>Dipteretrum</i> (13), <i>Discalida</i> (1), <i>Distichopis</i> (1), <i>Dysimphloe</i> (1), <i>Drabeha</i> (1), <i>Duryodana</i> (1), <i>Dyakina</i> (2), <i>Eublattella</i> (1), <i>Euhebardula</i> (4), <i>Eulissosoma</i> (1), <i>Euloboptera</i> (5), <i>Eurylestes</i> (1), <i>Eutheganopteryx</i> (1), <i>Hanitschella</i> (1), <i>Hamitschia</i> (1), <i>Hansstroemidium</i> (2), <i>Hemipterota</i> (1), <i>Incoblatta</i> (1), <i>Liosilpha</i> (2), <i>Lobodromia</i> (2), <i>Lophometopum</i> (3), <i>Malloblatta</i> (4), <i>Meratina</i> (3), <i>Maretiola</i> (1), <i>Margattina</i> (1), <i>Microblatta</i> (1), <i>Myrmeblattina</i> (1), <i>Namablatta</i> (2), <i>Neoleptoblatta</i> (1), <i>Nimbablatta</i> (1), <i>Nisibis</i> (1), <i>Nymphodromia</i> (1), <i>Onycholobus</i> (6), <i>Operclea</i> (1), <i>Paraloboptera</i> (1), <i>Parascalida</i> (1), <i>Parellipsidion</i> (3), <i>Phorticolea</i> (2), <i>Piroblatta</i> (3), <i>Rudebeckia</i> (3), <i>Sciablatta</i> (6), <i>Simblerastes</i> (1), <i>Sinablatta</i> (1), <i>Sutteriana</i> (1), <i>Tairella</i> (1), <i>Xosaia</i> (3)
Blattoidea (799)	Blattoidae (777)	Anaplectidae	<i>Anaplecta</i> (94), <i>Maraca</i> (1)
		Blattidae	<i>Afrostylopyga</i> (1), <i>Anamesia</i> (11), <i>Angustonicus</i> (10), <i>Apterisca</i> (1), <i>Archiblatta</i> (3), <i>Blatta</i> (14), <i>Brinckella</i> (1), <i>Cartoblatta</i> (14), <i>Catara</i> (2), <i>Celatoblatta</i> (25), <i>Cosmozosteria</i> (14), <i>Deropelets</i> (51), <i>Desmozosteria</i> (11), <i>Dorylaea</i> (25), <i>Drymaplaneta</i> (6), <i>Duchaillua</i> (11), <i>Eppertia</i> (4), <i>Eroblatta</i> (1), <i>Eumethana</i> (1), <i>Eurycotis</i> (59), <i>Euzosteria</i> (10), <i>Hebardina</i> (17), <i>Henicotyle</i> (1), <i>Homalosilpha</i> (12), <i>Leptozosteria</i> (7), <i>Macrocerca</i> (11), <i>Macrostylopyga</i> (3), <i>Maoriblatta</i> (6), <i>Megazosteria</i> (5), <i>Melanozosteria</i> (44), <i>Methana</i> (11), <i>Mimosilpha</i> (1), <i>Miostylopyga</i> (1), <i>Neostylopyga</i> (28), <i>Pallidionicus</i> (5), <i>Peltatosilpha</i> (24), <i>Pellucidonicus</i> (2), <i>Periplaneta</i> (53), <i>Platzosteria</i> (62), <i>Polyzosteria</i> (17), <i>Protagonista</i> (1), <i>Pseudoderopeltis</i> (45), <i>Pseudolampra</i> (4), <i>Punctulonicus</i> (2), <i>Rothsilpha</i> (8), <i>Scabina</i> (1), <i>Scabinopsis</i> (1), <i>Shelfordella</i> (3), <i>Tennelytra</i> (3), <i>Thrysocera</i> (3), <i>Zonioploca</i> (9)
		Lamproblattidae	<i>Eurycanthablatta</i> (1), <i>Lamproblatta</i> (8), <i>Lamproglandifera</i> (1)
		Tryonicidae	<i>Lauraesilpha</i> (11), <i>Tryonicus</i> (6)
		Cryptocercoidae (12)	<i>Cryptocercus</i> (12)
		Termitoidae	Termites are not considered cockroaches and are not included in this review.
Corydiodea (299)	Corydiidae (257)	Corydiinae	<i>Anisogamia</i> (1), <i>Arenivaga</i> (48), <i>Austropolyphaga</i> (2), <i>Eremoblatta</i> (2), <i>Ergaula</i> (7), <i>Eucorydia</i> (14), <i>Eupolyphaga</i> (7), <i>Hemelytroblatta</i> (28), <i>Heterogamisca</i> (9), <i>Heterogamodes</i> (2), <i>Homoeogamia</i> (2), <i>Hypercompsa</i> (5), <i>Leiopteroblatta</i> (1), <i>Mononychoblatta</i> (1), <i>Nymphrytria</i> (1), <i>Polyphagina</i> (1), <i>Polyphagoides</i> (1), <i>Therea</i> (8)
		Euthyrraphinae	<i>Euthyrrapha</i> (9)
		Holocompsinae	<i>Holocompsa</i> (10)
		Latindiinae	<i>Buboblatta</i> (2), <i>Latindia</i> (9), <i>Sinolatindia</i> (1)
		Tiviinae	<i>Sphecophila</i> (1), <i>Tivia</i> (15)
		-	<i>Anacompsa</i> (4), <i>Bucolion</i> (1), <i>Compsodes</i> (4), <i>Ctenoneura</i> (27), <i>Homopteroidea</i> (8), <i>Ipisoma</i> (1), <i>Ipolatta</i> (1), <i>Melestora</i> (8), <i>Melyroidea</i> (2), <i>Myrmecoblatta</i> (3), <i>Oulopteryx</i> (2), <i>Paralatindia</i> (4), <i>Pholadoblatta</i> (1), <i>Zetha</i> (4)
	Nocticolidae (33)	Nocticolidae	<i>Alluaudellina</i> (2), <i>Cardacopsis</i> (1), <i>Cardacus</i> (1), <i>Metanocticola</i> (1), <i>Nocticola</i> (21), <i>Pholeosilpha</i> (1), <i>Spelaeoblatta</i> (4), <i>Typhloblattodes</i> (1)

Online Resource 2. List of bacteria cultivated from cockroaches.

Cockroach	Bacteria			References
Scientific name (family)	Phylum	Family	Scientific name	
<i>Blaberus craniifer</i> (Blaberidae)	Firmicutes	Bacillaceae	<i>Bacillus cereus, B. subtilis</i>	(Ratcliffe and Rowley 1984; Roth and Willis 1960)
		Staphylococcaceae	<i>Staphylococcus aureus, S. epidermidis</i>	(Roth and Willis 1960)
	Proteobacteria	Alcaligenaceae	<i>Alcaligenes faecalis</i>	(Roth and Willis 1960)
			<i>Citrobacter freundii</i>	(Roth and Willis 1960; Strand and Brooks 1977)
		Enterobacteriaceae	<i>Enterobacter cloacae</i>	(Strand and Brooks 1977)
			<i>Escherichia coli</i>	(Strand and Brooks 1977)
			<i>Klebsiella aerogenes</i>	(Roth and Willis 1960; Strand and Brooks 1977)
			<i>Morganella morganii</i>	(Strand and Brooks 1977)
			<i>Proteus vulgaris</i>	(Roth and Willis 1960)
			<i>Salmonella enterica, S. typhimurium</i>	(Strand and Brooks 1977)
		Pseudomonaceae	<i>Pseudomonas aeruginosa</i>	(Roth and Willis 1960; Strand and Brooks 1977)
<i>Blaberus giganteus</i> (Blaberidae)	Firmicutes	Bacillaceae	<i>Bacillus cereus</i>	(Feinberg et al. 1999; Margulis et al. 1998)
<i>Blaptica dubia</i> (Blaberidae)	Proteobacteria	Enterobacteriaceae	<i>Serratia marcescens</i>	(Strand and Brooks 1977)
<i>Blaptica dubia</i> (Blaberidae)	Proteobacteria	Pseudomonadaceae	<i>Pseudomonas aeruginosa</i>	(Strand and Brooks 1977)
<i>Blatta lateralis</i> (Blattidae)	Proteobacteria	Enterobacteriaceae	<i>Shigella flexneri</i>	(Roth and Willis 1960)
<i>Blatta orientalis</i> (Blattidae)	Firmicutes	Actinobacteria	Micrococcaceae	<i>Micrococcus luteus</i> (Burgess et al. 1973; Roth and Willis 1960)
		Bacteroidetes	Bacteroidaceae	<i>Bacteroides fragilis</i> (Roth and Willis 1960)
			Aerococcaceae	<i>Aerococcus viridans</i> (Burgess et al. 1973)
			Bacillaceae	<i>Bacillus atrophaeus, B. cereus, B. circulans, B. coagulans, B. firmus, B. licheniformis, B. megaterium, B. subtilis, B. thuringiensis</i> (Burgess et al. 1973; Karimi Zarchi and Vatani 2009; Ozdal et al. 2016; Roth and Willis 1960; Strand and Brooks 1977)
			Clostridiaceae	<i>Clostridium cochlearium, C. sporogenes, C. ventriculi</i> (Roth and Willis 1960)
			Sarcina sp.	(Roth and Willis 1960)
			Enterococcaceae	<i>Enterococcus durans, E. faecalis</i> (Burgess et al. 1973; Roth and Willis 1960)
			Lactobacillaceae	<i>Lactobacillus fermentum</i> (Roth and Willis 1960)
			Paenibacillaceae	<i>Brevibacillus brevis</i> (Burgess et al. 1973)
			Paenibacillaceae	<i>Paenibacillus larvae, P. polymyxa</i> (Burgess et al. 1973)
			Streptococcaceae	<i>Lactococcus lactis</i> (Burgess et al. 1973)
			Streptococcaceae	<i>Streptococcus equinus, S. sanguinis, S. pyogenes</i> (Burgess et al. 1973; Karimi Zarchi and Vatani 2009; Roth and Willis 1960)
			Staphylococcaceae	<i>Staphylococcus aureus, S. epidermidis</i> (Burgess et al. 1973; Karimi Zarchi and Vatani 2009; Menasria et al. 2015; Roth and Willis 1960)
	Proteobacteria	Alcaligenaceae	<i>Alcaligenes faecalis</i>	(Roth and Willis 1960)

	Blattella germanica (Ectobiidae)	Enterobacteriaceae	<i>Citrobacter amolonaticus</i> , <i>C. diversus</i> , <i>C. freundii</i>	(Burgess et al. 1973; Karimi Zarchi and Vatani 2009; Ozdal et al. 2016)
			<i>Enterobacter cloacae</i> , <i>E. sakazakii</i>	(Burgess et al. 1973; García et al. 2012)
			<i>Escherichia coli</i>	(Burgess et al. 1973; Karimi Zarchi and Vatani 2009; Roth and Willis 1960)
			<i>Klebsiella aerogenes</i> , <i>K. pneumoniae</i> , <i>K. oxytoca</i>	(Burgess et al. 1973; García et al. 2012; Karimi Zarchi and Vatani 2009; Roth and Willis 1960)
			<i>Morganella morganii</i>	(Karimi Zarchi and Vatani 2009)
			<i>Proteus vulgaris</i> , <i>P. mirabilis</i>	(Burgess et al. 1973; Karimi Zarchi and Vatani 2009; Roth and Willis 1960)
			<i>Salmonella typhimurium</i>	(Roth and Willis 1960)
			<i>Serratia marcescens</i>	(Burgess et al. 1973; García et al. 2012; Roth and Willis 1960)
			<i>Shimwellia blattae</i>	(Burgess et al. 1973)
			<i>Moraxellaceae</i>	<i>Acinetobacter calcoaceticus</i> , <i>A. lwoffii</i>
			<i>Pseudomonadaceae</i>	<i>Pseudomonas aeruginosa</i> , <i>P. fluorescens</i>
				<i>P. putida</i>
			<i>Spirillaceae</i>	<i>Spirillum</i> sp.
			<i>Vibriionaceae</i>	<i>Vibrio cholerae</i> , <i>V. metschnikovii</i>
			<i>Yersiniaceae</i>	<i>Yersinia pestis</i>
			<i>Xanthomonaceae</i>	<i>Stenotrophomonas maltophilia</i>
		Spirochaetes	<i>Spirochaetaceae</i>	<i>Treponema</i> spp.
			<i>Actinomycetaceae</i>	<i>Actinomyces radingae</i>
			<i>Brevibacteriaceae</i>	<i>Brevibacterium</i> spp.
			<i>Corynebacteriaceae</i>	<i>Corynebacterium</i> spp.
			<i>Microbacteriaceae</i>	<i>Aureobacterium</i> spp.
		Actinobacteria		<i>Arthrobacter</i> sp.
			<i>Micrococcaceae</i>	<i>Micrococcus aurantiacus</i> , <i>M. luteus</i>
				<i>Pseudoglutamicibacter cumminsii</i>
			<i>Mycobacteriaceae</i>	<i>Mycobacterium leprae</i>
			<i>Nocardiaceae</i>	<i>Rhodococcus australis</i> , <i>R. rhodochrous</i>
		Firmicutes	<i>Tsukamurellaceae</i>	<i>Tsukamurella inchonensis</i>
			<i>Bacillaceae</i>	<i>Bacillus cereus</i> , <i>B. circulans</i> , <i>B. subtilis</i> , <i>B. thuringiensis</i>
			<i>Enterococcaceae</i>	<i>Enterococcus avium</i> , <i>E. durans</i> , <i>E. faecalis</i>
			<i>Leuconostocaceae</i>	<i>Leuconostoc</i> sp.
			<i>Paenibacillaceae</i>	<i>Paenibacillus alvei</i> , <i>P. lentimorbus</i>
		Proteobacteria	<i>Streptococcaceae</i>	<i>Streptococcus vestibularis</i> , <i>S. salivarius</i> , <i>S. viridans</i>
			<i>Staphylococcaceae</i>	<i>Staphylococcus aureus</i> , <i>S. equorum</i> , <i>S. epidermidis</i> , <i>S. hominis</i> , <i>S. saprophyticus</i>
				(Abdolmaleki et al. 2019; Akinjogunla et al. 2012; Gliniewicz et al. 2003; Jalil et al. 2012; Karimi Zarchi and Vatani 2009; Menasria et al. 2014; Menasria et al. 2015; Mpuchane et al. 2006a; Mpuchane et al. 2006b; Naher et al. 2018; Roth and Willis 1960; Salehzadeh et al. 2007; Tachbele et al. 2006; Zhang et al. 2018)
		<i>Aeromonadaceae</i>	<i>Aeromonas caviae</i> , <i>A. hydrophila</i>	(Cloarec et al. 1992; Elgderi et al. 2006)
		<i>Alcaligenaceae</i>	<i>Alcaligenes faecalis</i>	(Roth and Willis 1960)
		<i>Burkholderiaceae</i>	<i>Burkholderia cepacia</i>	(Mpuchane et al. 2006a)
		<i>Comamonadaceae</i>	<i>Delftia</i> sp.	(Zhang et al. 2018)

		<i>Buttiauxella agrestis</i>	(Cloarec et al. 1992; Elgderi et al. 2006; Mpuchane et al. 2006a; Mpuchane et al. 2006b)
		<i>Citrobacter amalonaticus</i> , <i>C. braakii</i> , <i>C. diversus</i> , <i>C. freundii</i> , <i>C. koseri</i> , <i>C. youngae</i>	(Akinjogunla et al. 2012; Cloarec et al. 1992; Elgderi et al. 2006; Fakoorziba et al. 2014; Gliniewicz et al. 2003; Jalil et al. 2012; Karimi Zarchi and Vatani 2009; Menasria et al. 2014; Mpuchane et al. 2006a; Mpuchane et al. 2006b; Oliva et al. 2010; Pai et al. 2005; Roth and Willis 1960; Tilahun et al. 2012; Wannigama et al. 2014)
		<i>Enterobacter agglomerans</i> , <i>E. cloacae</i> , <i>E. gergoviae</i>	(Akinjogunla et al. 2012; Cloarec et al. 1992; Elgderi et al. 2006; Fakoorziba et al. 2014; Fotedar et al. 1991; Gliniewicz et al. 2003; Jalil et al. 2012; Jeffery et al. 2012; Menasria et al. 2014; Mpuchane et al. 2006a; Mpuchane et al. 2006b; Naher et al. 2018; Oliva et al. 2010; Oothuman et al. 1989; Pai et al. 2005; Roth and Willis 1960; Salehzadeh et al. 2007; Tilahun et al. 2012; Vahabi et al. 2011; Wannigama et al. 2014)
		<i>Erwinia</i> spp.	(Mpuchane et al. 2006a; Mpuchane et al. 2006b)
		<i>Escherichia adecarboxylata</i> , <i>E. coli</i> , <i>E. hermannii</i> , <i>E. vulneris</i>	(Akinjogunla et al. 2012; Cloarec et al. 1992; Elgderi et al. 2006; Fakoorziba et al. 2014; Fotedar et al. 1991; Jalil et al. 2012; Karimi Zarchi and Vatani 2009; Mpuchane et al. 2006a; Mpuchane et al. 2006b; Naher et al. 2018; Oliva et al. 2010; Oothuman et al. 1989; Pai et al. 2005; Roth and Willis 1960; Salehzadeh et al. 2007; Strand and Brooks 1977; Tachbele et al. 2006; Tilahun et al. 2012; Vahabi et al. 2011; Wannigama et al. 2014)
		<i>Ewingella americana</i>	(Cloarec et al. 1992)
		<i>Hafnia alvei</i>	(Elgderi et al. 2006; Mpuchane et al. 2006a; Mpuchane et al. 2006b)
	Enterobacteriaceae	<i>Klebsiella aerogenes</i> , <i>K. oxytoca</i> , <i>K. ozaenae</i> , <i>K. pneumoniae</i> , <i>K. ornithinolytica</i>	(Akinjogunla et al. 2012; Cloarec et al. 1992; Elgderi et al. 2006; Fakoorziba et al. 2014; Fotedar et al. 1991; Gliniewicz et al. 2003; Jalil et al. 2012; Jeffery et al. 2012; Karimi Zarchi and Vatani 2009; Menasria et al. 2014; Mpuchane et al. 2006a; Mpuchane et al. 2006b; Naher et al. 2018; Oliva et al. 2010; Oothuman et al. 1989; Pai et al. 2005; Roth and Willis 1960; Salehzadeh et al. 2007; Strand and Brooks 1977; Tachbele et al. 2006; Tilahun et al. 2012; Vahabi et al. 2011; Wannigama et al. 2014)
		<i>Kluyvera intermedia</i>	(Cloarec et al. 1992; Mpuchane et al. 2006a; Mpuchane et al. 2006b)
		<i>Leclercia adecarboxylata</i>	(Elgderi et al. 2006)
		<i>Morganella</i> sp., <i>Morganella morganii</i>	(Akinjogunla et al. 2012; Cloarec et al. 1992; Elgderi et al. 2006; Jalil et al. 2012; Oothuman et al. 1989)
		<i>Pantoea agglomerans</i>	(Elgderi et al. 2006; Menasria et al. 2014)
		<i>Proteus mirabilis</i> , <i>P. vulgaris</i>	(Akinjogunla et al. 2012; Elgderi et al. 2006; Fakoorziba et al. 2014; Fotedar et al. 1991; Jalil et al. 2012; Karimi Zarchi and Vatani 2009; Mpuchane et al. 2006a; Mpuchane et al. 2006b; Naher et al. 2018; Pai et al. 2005; Vahabi et al. 2011; Wannigama et al. 2014)
		<i>Providencia alcalifaciens</i> , <i>P. rettgeri</i>	(Akinjogunla et al. 2012; Cloarec et al. 1992; Jalil et al. 2012; Tilahun et al. 2012)
		<i>Salmonella enterica</i> , <i>S. typhimurium</i>	(Akinjogunla et al. 2012; Fathpour et al. 2003; García et al. 2012; Jalil et al. 2012; Mpuchane et al. 2006a; Mpuchane et al. 2006b; Naher et al. 2018; Oothuman et al. 1989; Roth and Willis 1960; Tachbele et al. 2006; Tilahun et al. 2012; Wannigama et al. 2014)
		<i>Serratia liquefaciens</i> , <i>S. marcescens</i> , <i>S. odorifera</i> , <i>S. plymuthica</i> , <i>S. rubidaea</i>	(Cloarec et al. 1992; Elgderi et al. 2006; Fotedar et al. 1991; Gliniewicz et al. 2003; Jalil et al. 2012; Jeffery et al. 2012; Menasria et al. 2014; Mpuchane et al. 2006a; Mpuchane et al. 2006b; Oliva et al. 2010; Oothuman et al. 1989; Pai et al. 2005; Roth and Willis 1960; Strand and Brooks 1977; Vahabi et al. 2011)
		<i>Shigella flexneri</i>	(Akinjogunla et al. 2012; Fakoorziba et al. 2014; Jalil et al. 2012; Mpuchane et al. 2006b; Naher et al. 2018; Salehzadeh et al. 2007; Tachbele et al. 2006; Tilahun et al. 2012)
	<i>Moraxellaceae</i>	<i>Acinetobacter</i> spp.	(Cloarec et al. 1992; Elgderi et al. 2006; Fakoorziba et al. 2014; Oliva et al. 2010; Tilahun et al. 2012; Zhang et al. 2018)
	<i>Pasteurellaceae</i>	<i>Haemophilus</i> sp.	(Naher et al. 2018; Salehzadeh et al. 2007)
	<i>Pseudomonadaceae</i>	<i>Pseudomonas aeruginosa</i> , <i>P. fluorescens</i> , <i>P. putida</i> , <i>P. reactans</i>	(Akinjogunla et al. 2012; Cloarec et al. 1992; Elgderi et al. 2006; Fakoorziba et al. 2014; Fotedar et al. 1991; Gliniewicz et al. 2003; Jalil et al. 2012; Karimi Zarchi and Vatani 2009; Loucif et al. 2017; Menasria et al. 2014; Menasria et al. 2015; Mpuchane et al. 2006a; Mpuchane et al. 2006b;

				Naher et al. 2018; Oothuman et al. 1989; Roth and Willis 1960; Saitou et al. 2009; Salehzadeh et al. 2007; Strand and Brooks 1977; Tilahun et al. 2012; Vahabi et al. 2011; Wannigama et al. 2014; Zhang et al. 2013; Zhang et al. 2018)
		Vibrionaceae	<i>Vibrio cholerae</i> , <i>V. fluvialis</i> , <i>V. metschinikovii</i>	(Cloarec et al. 1992; Mpuchane et al. 2006b; Roth and Willis 1960)
		Xanthomonaceae	<i>Stenotrophomonas maltophilia</i>	(Elgderi et al. 2006; Mpuchane et al. 2006b)
			<i>Xanthomonas</i> spp.	(Mpuchane et al. 2006a; Mpuchane et al. 2006b)
<i>Cryptocercus punctulatus</i> (Cryptocercidae)	<i>Firmicutes</i>	<i>Bacillaceae</i>	<i>Bacillus subtilis</i>	(Roth and Willis 1960)
	<i>Spirochaetes</i>	<i>Spirochaetaceae</i>	<i>Alkalispirochaeta cellulosivorans</i>	(Sravanti et al. 2016)
<i>Diploptera punctata</i> (Blaberidae)	<i>Proteobacteria</i>	<i>Enterobacteriaceae</i>	<i>Serratia marcescens</i>	(Roth and Willis 1960)
<i>Eublaberus posticus</i> (Blaberidae)		<i>Coriobacteriaceae</i>	<i>Collinsella aerofaciens</i>	(Cruden and Markovetz 1987)
		<i>Propionibacteriaceae</i>	<i>Cutibacterium avidum</i>	(Cruden and Markovetz 1987)
			<i>Propionibacterium freudenreichii</i>	(Cruden and Markovetz 1987)
		<i>Clostridiaceae</i>	<i>Clostridium beijerinckii</i> , <i>C. carnis</i> , <i>C. moniliiforme</i> , <i>C. sporogenes</i>	(Cruden and Markovetz 1987; Cruden and Markovetz 1979)
			<i>Paenoclostridium</i> sp.	(Cruden and Markovetz 1987)
			<i>Paraclostridium bifermentans</i>	(Cruden and Markovetz 1987)
		<i>Eubacteriaceae</i>	<i>Eubacterium cellulosolvens</i> , <i>E. limosum</i>	(Cruden and Markovetz 1987; Cruden and Markovetz 1979)
		<i>Lachnospiraceae</i>	<i>Blautia producta</i>	(Cruden and Markovetz 1987)
		<i>Oscillospiraceae</i>	<i>Faecalibacterium prausnitzii</i>	(Foglesong et al. 1984)
		<i>Peptoniphilaceae</i>	<i>Finegoldia magna</i>	(Cruden and Markovetz 1987)
		<i>Peptostreptococcaceae</i>	<i>Clostridioides manganotii</i>	(Cruden and Markovetz 1987)
			<i>Peptostreptococcus anaerobius</i>	(Cruden and Markovetz 1987)
		<i>Streptococcaceae</i>	<i>Streptococcus constellatus</i> , <i>S. intermedius</i>	(Cruden and Markovetz 1987)
		<i>Tissierallaceae</i>	<i>Tissierella preacuta</i>	(Cruden and Markovetz 1987)
		<i>Fusobacteria</i>	<i>Fusobacterium gonodiformans</i> , <i>F. necrophorum</i> , <i>F. prausnitzii</i> , <i>F. varium</i>	(Cruden and Markovetz 1987; Foglesong et al. 1984)
		<i>Proteobacteria</i>	<i>Citrobacter freundii</i>	(Cruden and Markovetz 1979)
			<i>Klebsiella pneumoniae</i>	(Cruden and Markovetz 1979)
			<i>Serratia</i> sp.	(Cruden and Markovetz 1979)
<i>Gromphadorhina portentosa</i> (Blaberidae)	<i>Firmicutes</i>	<i>Bacillaceae</i>	<i>Bacillus cereus</i>	(Margulis et al. 1998)
		<i>Enterococcaceae</i>	<i>Enterococcus</i> sp.	(Robertson 2007)
	<i>Fusobacteria</i>	<i>Fusobacteriaceae</i>	<i>Fusobacterium</i> sp.	(Robertson 2007)
	<i>Proteobacteria</i>	<i>Enterobacteriaceae</i>	<i>Klebsiella</i> sp.	(Robertson 2007)
			<i>Serratia</i> sp.	(Robertson 2007)
<i>Panchlora nivea</i> (Blaberidae)	<i>Proteobacteria</i>	<i>Enterobacteriaceae</i>	<i>Serratia marcescens</i>	(Roth and Willis 1960)
<i>Periplaneta americana</i> (Blattidae)		<i>Bifidobacteriaceae</i>	<i>Bifidobacterium</i> sp.	(Cruden and Markovetz 1987)
		<i>Corynebacteriaceae</i>	<i>Corynebacterium</i> sp.	(Strand and Brooks 1977)
		<i>Micrococcaceae</i>	<i>Micrococcus</i> spp.	(Kassiri et al. 2014)
		<i>Mycobacteriaceae</i>	<i>Mycobacterium aurum</i> , <i>M. avium</i> , <i>M. fortuitum</i> , <i>M. gordoniæ</i> , <i>M. kansasii</i> , <i>M.</i>	(Leibovitz 1951; Pai et al. 2003; Roth and Willis 1960)

			<i>lacticola</i> , <i>M. leprae</i> , <i>M. phlei</i> , <i>M. piscium</i> , <i>M. ranae</i> , <i>M. smegmatis</i> , <i>M. xenopii</i>	
Bacteroidetes	<i>Nocardiaceae</i>	<i>Nocardia</i> sp.	(Leibovitz 1951)	
	<i>Propionibacteriaceae</i>	<i>Cutibacterium avidum</i>	(Cruden and Markovetz 1987)	
	<i>Streptomycetaceae</i>	<i>Streptomyces globisporus</i>	(Chen et al. 2020; Hoffman 1953)	
	<i>Bacteroidaceae</i>	<i>Bacteroides</i> spp.	(Cruden and Markovetz 1987; Vera-Ponce de León et al. 2020)	
	<i>Dysgonomonadaceae</i>	<i>Dysgonomonas</i> spp.	(Vera-Ponce de León et al. 2020)	
	<i>Flavobacteriaceae</i>	<i>Chryseobacterium</i> sp.	(Dugas et al. 2001)	
	<i>Paludibacteraceae</i>	<i>Paludibacter</i> sp.	(Vera-Ponce de León et al. 2020)	
	<i>Tannerellaceae</i>	<i>Parabacteroides</i> sp.	(Vera-Ponce de León et al. 2020)	
	<i>Acidaminococcaceae</i>	<i>Acidaminococcus fermentans</i>	(Cruden and Markovetz 1987)	
	<i>Bacillaceae</i>	<i>Bacillus cereus</i> , <i>B. kochii</i> , <i>B. megaterium</i> , <i>B. subtilis</i> , <i>B. thuringiensis</i>	(Akinjogunla et al. 2012; Al-Fatty and Al-Aridhi 2014; Alcamo and Frishman 1980; Bagde et al. 2013; Elyasigomari et al. 2017; Feizhaddad et al. 2012; Isaac et al. 2014; Karimi Zarchi and Vatani 2009; Oothuman et al. 1989; Rampal et al. 1983; Roth and Willis 1960; Sayyad et al. 2016; Sharma et al. 2019; Strand and Brooks 1977)	
Firmicutes	<i>Clostridiaceae</i>	<i>Clostridium moniliiforme</i> , <i>C. sporogenes</i>	(Cruden and Markovetz 1987)	
		<i>Paraclostridium bifermentans</i>	(Cruden and Markovetz 1987)	
		<i>Sarcina</i> sp.	(Roth and Willis 1960)	
	<i>Enterococcaceae</i>	<i>Enterococcus faecalis</i>	(Al-Fatty and Al-Aridhi 2014; Bouamama et al. 2010; Isaac et al. 2014; Jalil et al. 2012; Kane and Breznak 1991; Kassiri et al. 2014; Roth and Willis 1960; Tetteh-Quarcoo et al. 2013)	
	<i>Lachnospiraceae</i>	<i>Blautia producta</i>	(Cruden and Markovetz 1987)	
		<i>Butyrivibrio</i> sp.	(Cruden and Markovetz 1987)	
		<i>Coprococcus</i> sp.	(Cruden and Markovetz 1987)	
	<i>Lactobacillaceae</i>	<i>Lactobacillus</i> sp.	(Cruden and Markovetz 1987; Kane and Breznak 1991)	
	<i>Peptoniphilaceae</i>	<i>Finegoldia magna</i>	(Cruden and Markovetz 1987)	
	<i>Oscillospiraceae</i>	<i>Ruminococcus</i> sp.	(Cruden and Markovetz 1987)	
	<i>Streptococcaceae</i>	<i>Streptococcus pyogenes</i>	(Al-Fatty and Al-Aridhi 2014; Alcamo and Frishman 1980; Feizhaddad et al. 2012; Kane and Breznak 1991; Karimi Zarchi and Vatani 2009; Kassiri et al. 2014; Oothuman et al. 1989; Rampal et al. 1983)	
	<i>Staphylococcaceae</i>	<i>Staphylococcus aureus</i> , <i>S. epidermidis</i> , <i>S. saprophyticus</i>	(Abdolmaleki et al. 2019; Akinjogunla et al. 2012; Al-Fatty and Al-Aridhi 2014; Alcamo and Frishman 1980; Bagde et al. 2013; Bouamama et al. 2010; Elyasigomari et al. 2017; Feizhaddad et al. 2012; Isaac et al. 2014; Islam et al. 2016; Jalil et al. 2012; Karimi Zarchi and Vatani 2009; Kassiri et al. 2014; Oothuman et al. 1989; Prado et al. 2006; Rampal et al. 1983; Sayyad et al. 2016; Vahabi et al. 2011)	
	<i>Veillonellaceae</i>	<i>Veillonella parvula</i>	(Roth and Willis 1960)	
Fusobacteria	<i>Fusobacteriaceae</i>	<i>Fusobacterium varium</i>	(Cruden and Markovetz 1987)	
Proteobacteria	<i>Alcaligenaceae</i>	<i>Alcaligenes faecalis</i>	(Roth and Willis 1960)	
	<i>Burkholderiaceae</i>	<i>Burkholderia cepacia</i>	(García et al. 2012)	
	<i>Enterobacteriaceae</i>	<i>Citrobacter diversus</i> , <i>C. freundii</i> , <i>C. koseri</i> , <i>C. intermedium</i>	(Akbari et al. 2015; Bouamama et al. 2010; Elyasigomari et al. 2017; García et al. 2012; Iboh et al. 2014; Isaac et al. 2014; Jalil et al. 2012; Jeffery et al. 2012; Karimi Zarchi and Vatani 2009; Kassiri et al. 2014; Oothuman et al. 1989; Pai et al. 2005; Rampal et al. 1983; Roth and Willis 1960; Tetteh-Quarcoo et al. 2013; Wannigama et al. 2014)	
		<i>Enterobacter cloacae</i> , <i>E. aerogenes</i>	(Akbari et al. 2015; Akinjogunla et al. 2012; Bagde et al. 2013; Bouamama et al. 2010; Elyasigomari et al. 2017; Fakoorziba et al. 2014; Feizhaddad et al. 2012; García et al. 2012; Iboh et al. 2014; Jalil et al. 2012; Jeffery et al. 2012; Karimi Zarchi and Vatani 2009; Kassiri et al. 2014; Oothuman et al. 1989; Pai et al. 2005; Prado et al. 2006; Rampal et al. 1983; Roth and Willis 1960; Sayyad et al. 2016; Tetteh-Quarcoo et al. 2013; Vahabi et al. 2011; Wannigama et al. 2014)	

			<i>Escherichia coli</i> , <i>E. vulneris</i>	(Akbari et al. 2015; Akinjogunla et al. 2012; Al-Fattly and Al-Aridhi 2014; Bagde et al. 2013; Bouamamaa et al. 2010; Elyasigomari et al. 2017; Feizhaddad et al. 2012; García et al. 2012; Isaac et al. 2014; Jalil et al. 2012; Jeffery et al. 2012; Karimi Zarchi and Vatani 2009; Kassiri et al. 2014; Oothuman et al. 1989; Pai et al. 2005; Rampal et al. 1983; Roth and Willis 1960; Sayyad et al. 2016; Strand and Brooks 1977; Tetteh-Quarcoo et al. 2013; Vahabi et al. 2011; Wannigama et al. 2014)
			<i>Edwardsiella tarda</i>	(Karimi Zarchi and Vatani 2009)
			<i>Hafnia alvei</i>	(García et al. 2012; Pai et al. 2005; Prado et al. 2006)
			<i>Klebsiella aerogenes</i> , <i>K. pneumoniae</i> , <i>K. oxytoca</i>	(Akbari et al. 2015; Akinjogunla et al. 2012; Al-Fattly and Al-Aridhi 2014; Bouamamaa et al. 2010; García et al. 2012; Iboh et al. 2014; Jalil et al. 2012; Jeffery et al. 2012; Karimi Zarchi and Vatani 2009; Kassiri et al. 2014; Oothuman et al. 1989; Pai et al. 2005; Prado et al. 2006; Rampal et al. 1983; Roth and Willis 1960; Sayyad et al. 2016; Tetteh-Quarcoo et al. 2013; Vahabi et al. 2011; Wannigama et al. 2014)
			<i>Leclercia adecarboxylata</i>	(Akbari et al. 2015)
			<i>Morganella morganii</i>	(Akinjogunla et al. 2012; García et al. 2012; Jalil et al. 2012; Oothuman et al. 1989; Roth and Willis 1960)
			<i>Proteus mirabilis</i> , <i>P. vulgaris</i>	(Agbodaze 1989; Akinjogunla et al. 2012; Al-Fattly and Al-Aridhi 2014; Bouamamaa et al. 2010; Elyasigomari et al. 2017; Feizhaddad et al. 2012; García et al. 2012; Isaac et al. 2014; Jalil et al. 2012; Jeffery et al. 2012; Karimi Zarchi and Vatani 2009; Kassiri et al. 2014; Oothuman et al. 1989; Pai et al. 2005; Rampal et al. 1983; Roth and Willis 1960; Sayyad et al. 2016; Tetteh-Quarcoo et al. 2013; Vahabi et al. 2011; Wannigama et al. 2014)
			<i>Providencia rettgeri</i>	(Akinjogunla et al. 2012; Bouamamaa et al. 2010; Elyasigomari et al. 2017; Jalil et al. 2012; Oothuman et al. 1989; Roth and Willis 1960)
			<i>Rahnella aquatilis</i>	(Akbari et al. 2015)
			<i>Salmonella enterica</i> , <i>S. typhimurium</i>	(Agbodaze 1989; Akinjogunla et al. 2012; Al-Fattly and Al-Aridhi 2014; Bagde et al. 2013; Bouamamaa et al. 2010; Elyasigomari et al. 2017; Iboh et al. 2014; Isaac et al. 2014; Jalil et al. 2012; Rampal et al. 1983; Roth and Willis 1960; Wannigama et al. 2014)
			<i>Serratia marcescens</i> , <i>S. odorifera</i> , <i>S. rubidaea</i>	(Bouamamaa et al. 2010; Elyasigomari et al. 2017; Feizhaddad et al. 2012; Kassiri et al. 2014; Pai et al. 2005; Prado et al. 2006; Sayyad et al. 2016; Strand and Brooks 1977; Vahabi et al. 2011)
			<i>Shigella boydii</i> , <i>S. dysenteriae</i> , <i>S. flexneri</i> , <i>S. sonnei</i>	(Agbodaze 1989; Akbari et al. 2015; Akinjogunla et al. 2012; Al-Fattly and Al-Aridhi 2014; Bagde et al. 2013; Bouamamaa et al. 2010; Elyasigomari et al. 2017; Iboh et al. 2014; Jalil et al. 2012; Oothuman et al. 1989; Rampal et al. 1983)
	<i>Moraxellaceae</i>		<i>Acinetobacter</i> sp.	(Bouamamaa et al. 2010; Oothuman et al. 1989; Rampal et al. 1983)
	<i>Pasteurellaceae</i>		<i>Pasteurella</i> sp.	(Bouamamaa et al. 2010)
	<i>Pseudomonadaceae</i>		<i>Pseudomonas aeruginosa</i> , <i>P. fluorescens</i>	(Agbodaze 1989; Akinjogunla et al. 2012; Al-Fattly and Al-Aridhi 2014; Fakoorziba et al. 2014; Isaac et al. 2014; Jalil et al. 2012; Karimi Zarchi and Vatani 2009; Kassiri et al. 2014; Oothuman et al. 1989; Rampal et al. 1983; Roth and Willis 1960; Saitou et al. 2009; Sayyad et al. 2016; Strand and Brooks 1977; Tetteh-Quarcoo et al. 2013; Vahabi et al. 2011; Wannigama et al. 2014)
	<i>Spirillaceae</i>		<i>Spirillum</i> sp.	(Roth and Willis 1960)
	<i>Vibrionaceae</i>		<i>Vibrio cholerae</i>	(Iboh et al. 2014; Roth and Willis 1960)
	<i>Yersiniaceae</i>		<i>Yersinia enterocolitica</i> , <i>Y. intermedia</i> , <i>Y. pseudotuberculosis</i>	(Akbari et al. 2015; Bouamamaa et al. 2010)
	<i>Spirochaetes</i>	<i>Leptospiraceae</i>	<i>Leptospira</i> sp.	(Gonzalez-Astudillo et al. 2015)
<i>Periplaneta australasiae</i> (Blattidae)	<i>Actinobacteria</i>	<i>Mycobacteriaceae</i>	<i>Mycobacterium leprae</i>	(Roth and Willis 1960)
	<i>Firmicutes</i>	<i>Bacillaceae</i>	<i>Bacillus</i> sp.	(Rampal et al. 1983)
	<i>Proteobacteria</i>	<i>Enterobacteriaceae</i>	<i>Enterobacter</i> sp.	(Rampal et al. 1983)

			<i>Serratia marcescens</i>	(Roth and Willis 1960)
		Vibrionaceae	<i>Vibrio cholerae</i>	(Roth and Willis 1960)
	<i>Spirochaetes</i>	<i>Leptospiraceae</i>	<i>Leptospira</i> sp.	(Gonzalez-Astudillo et al. 2015)
<i>Periplaneta brunnea</i> (Blattidae)	<i>Firmicutes</i> <i>Proteobacteria</i>	<i>Bacillaceae</i>	<i>Bacillus</i> sp.	(Oothuman et al. 1989; Rampal et al. 1983)
		<i>Streptococcaceae</i>	<i>Streptococcus</i> spp.	(Oothuman et al. 1989)
		<i>Enterobacteriaceae</i>	<i>Citrobacter koseri</i>	(Jeffery et al. 2012; Rampal et al. 1983)
			<i>Enterobacter</i> sp.	(Rampal et al. 1983)
			<i>Escherichia coli, E. vulneris</i>	(Jeffery et al. 2012; Oothuman et al. 1989; Rampal et al. 1983)
			<i>Klebsiella pneumoniae</i>	(Jeffery et al. 2012; Rampal et al. 1983)
			<i>Salmonella typhimurium</i>	(Oothuman et al. 1989)
			<i>Serratia marcescens</i>	(Roth and Willis 1960)
		<i>Moraxellaceae</i>	<i>Acinetobacter calcoaceticus</i>	(Jeffery et al. 2012)
		<i>Pseudomonadaceae</i>	<i>Pseudomonas</i> sp.	(Oothuman et al. 1989)
<i>Periplaneta fuliginosa</i> (Blattidae)	<i>Proteobacteria</i>	<i>Enterobacteriaceae</i>	<i>Serratia marcescens</i>	(Rueger and Olson 1969)
		<i>Pseudomonadaceae</i>	<i>Pseudomonas aeruginosa</i>	(Saitou et al. 2009)
<i>Polyphaga aegyptiaca</i> (Corydiidae)	<i>Firmicutes</i> <i>Proteobacteria</i>	<i>Bacillaceae</i>	<i>Bacillus cereus, B. subtilis</i>	(Elyasigomari et al. 2017; Vazirianzadeh et al. 2009)
		<i>Staphylococcaceae</i>	<i>Staphylococcus aureus, S. epidermidis</i>	(Elyasigomari et al. 2017; Vazirianzadeh et al. 2009)
		<i>Alcaligenaceae</i>	<i>Oligella urethralis</i>	(Elyasigomari et al. 2017)
		<i>Burkholderiaceae</i>	<i>Burkholderia mallei</i>	(Elyasigomari et al. 2017)
		<i>Enterobacteriaceae</i>	<i>Citrobacter freundii</i>	(Elyasigomari et al. 2017)
			<i>Enterobacter cloacae</i>	(Elyasigomari et al. 2017)
			<i>Escherichia coli</i>	(Elyasigomari et al. 2017; Vazirianzadeh et al. 2009)
			<i>Klebsiella pneumoniae</i>	(Vazirianzadeh et al. 2009)
			<i>Morganella morganii</i>	(Elyasigomari et al. 2017)
			<i>Providencia</i> spp.	(Elyasigomari et al. 2017)
			<i>Serratia marcescens</i>	(Elyasigomari et al. 2017)
		<i>Neisseriaceae</i>	<i>Neisseria</i> sp.	(Vazirianzadeh et al. 2009)
<i>Pycnoscelus surinamensis</i> (Blaberidae)	<i>Proteobacteria</i>	<i>Enterobacteriaceae</i>	<i>Serratia marcescens</i>	(Roth and Willis 1960)
<i>Nauphoeta cinerea</i> (Blaberidae)	<i>Firmicutes</i>	<i>Bacillaceae</i>	<i>Bacillus</i> sp.	(Rampal et al. 1983)
		<i>Proteobacteria</i>	<i>Enterobacter</i> sp.	(Rampal et al. 1983)
			<i>Salmonella typhimurium</i>	(Roth and Willis 1960)
			<i>Serratia marcescens</i>	(Roth and Willis 1960)
	<i>Proteobacteria</i>	<i>Moraxellaceae</i>	<i>Acinetobacter</i> sp.	(Rampal et al. 1983)
<i>Neostylopyga rhombifolia</i> (Blattidae)	<i>Firmicutes</i>	<i>Bacillaceae</i>	<i>Bacillus</i> sp.	(Rampal et al. 1983)
	<i>Proteobacteria</i>	<i>Enterobacteriaceae</i>	<i>Escherichia coli</i>	(Rampal et al. 1983)
			<i>Klebsiella</i> sp.	(Rampal et al. 1983)
			<i>Serratia marcescens</i>	(Roth and Willis 1960)
<i>Rhyparobia maderae</i> (Blaberidae)	<i>Firmicutes</i>	<i>Enterococcaceae</i>	<i>Enterococcus faecalis</i>	(Strand and Brooks 1977)
	<i>Proteobacteria</i>	<i>Enterobacteriaceae</i>	<i>Citrobacter</i> sp.	(Strand and Brooks 1977)
			<i>Hafnia</i> sp.	(Strand and Brooks 1977)
			<i>Serratia marcescens</i>	(Roth and Willis 1960)
	<i>Firmicutes</i>	<i>Bacillaceae</i>	<i>Bacillus thuringiensis</i>	(Strand and Brooks 1977)
		<i>Erysipelotrichaceae</i>	<i>Breznakia blatticola</i>	(Tegtmeier et al. 2016a)

<i>Shelfordella lateralis</i> (Blattidae)	<i>Fusobacteria</i>	<i>Fusobacteriaceae</i>	<i>Fusobacterium varium</i>	(Tegtmeier et al. 2016b)
	<i>Proteobacteria</i>	<i>Enterobacteriaceae</i>	<i>Cronobacter</i> sp.	(Tegtmeier et al. 2016b)
			<i>Pantoea</i> sp.	(Tegtmeier et al. 2016b)
			<i>Shimwellia</i> sp.	(Tegtmeier et al. 2016b)
<i>Supella longipalpa</i> (Ectobiidae)	<i>Verrucomicrobia</i>	<i>Opitutaceae</i>	<i>Ereboglobus luteus</i>	(Tegtmeier et al. 2018)
	<i>Firmicutes</i>	<i>Bacillaceae</i>	<i>Bacillus cereus</i> , <i>B. subtilis</i>	(Oothuman et al. 1989; Vazirianzadeh et al. 2014)
		<i>Staphylococcaceae</i>	<i>Staphylococcus</i> sp., <i>S. aureus</i>	(Alcamo and Frishman 1980; Le Guyader et al. 1989; Oothuman et al. 1989; Strand and Brooks 1977; Vazirianzadeh et al. 2014)
		<i>Streptococcaceae</i>	<i>Streptococcus</i> sp.	(Alcamo and Frishman 1980)
		<i>Aeromonadaceae</i>	<i>Aeromonas hydrophila</i>	(Le Guyader et al. 1989)
		<i>Alcaligenaceae</i>	<i>Achromobacter</i> spp.	(Le Guyader et al. 1989)
			<i>Alcaligenes faecalis</i>	(Le Guyader et al. 1989)
		<i>Burkholderiaceae</i>	<i>Burkholderia cepacia</i>	(Le Guyader et al. 1989)
			<i>Buttiauxella agrestis</i>	(Le Guyader et al. 1989)
			<i>Cedecea</i> sp.	(Le Guyader et al. 1989)
			<i>Citrobacter koseri</i> , <i>C. freundii</i>	(Le Guyader et al. 1989; Vazirianzadeh et al. 2014)
			<i>Cronobacter sakazakii</i>	(Le Guyader et al. 1989)
			<i>Enterobacter cloacae</i>	(Le Guyader et al. 1989; Vazirianzadeh et al. 2014)
			<i>Escherichia coli</i>	(Le Guyader et al. 1989; Vazirianzadeh et al. 2014)
		<i>Enterobacteriaceae</i>	<i>Klebsiella aerogenes</i> , <i>K. pneumoniae</i> , <i>K. oxytoca</i>	(Le Guyader et al. 1989; Vazirianzadeh et al. 2014)
			<i>Kluyvera</i> sp.	(Le Guyader et al. 1989)
			<i>Leclercia adecarboxylata</i>	(Le Guyader et al. 1989)
			<i>Lelliottia amnigena</i>	(Le Guyader et al. 1989)
			<i>Pantoea agglomerans</i>	(Le Guyader et al. 1989)
			<i>Proteus mirabilis</i> , <i>P. vulgaris</i>	(Le Guyader et al. 1989; Vazirianzadeh et al. 2014)
			<i>Serratia liquefaciens</i> , <i>S. marcescens</i>	(Le Guyader et al. 1989; Roth and Willis 1960; Vazirianzadeh et al. 2014)
			<i>Shigella boydii</i> , <i>S. dysenteriae</i> , <i>S. flexneri</i> , <i>S. sonnei</i>	(Le Guyader et al. 1989)
			<i>Moraxellaceae</i>	<i>Acinetobacter calcoaceticus</i>
				(Le Guyader et al. 1989)
			<i>Pseudomonadaceae</i>	<i>Pseudomonas aeruginosa</i> , <i>P. fluorescens</i> , <i>P. stutzeri</i>
				(Le Guyader et al. 1989)
		<i>Sphingomonadaceae</i>	<i>Sphingomonas paucimobilis</i>	(Le Guyader et al. 1989)
		<i>Xanthomonadaceae</i>	<i>Stenotrophomonas maltophilia</i>	(Le Guyader et al. 1989)

Online Resource 3. Average composition of the bacterial community of wild or untreated cockroaches at the level of bacterial phyla.

Cockroach	16S rRNA region	Sequencing platform	Taxonomic database	Composition by phylum (%)											References	
				Actinob.	Bacter.	Firmicu.	Fusobac.	Plancto.	Proteob.	Spiroc.	Synergi.	Teneric.	Verruc.	Other		
<i>Blaberus craniifer</i>	515F-806R	Illumina MiSeq	Greengenes 2013	1.3	26	34	2.8	0.9	18	0.2	1.4	2.4	6.1	6.9	(Tinker and Ottesen 2020)	
<i>Blatta orientalis</i>	343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.5	43	38	0.7	1.4	8.8	1.1	0.9	0.0	1.2	4.4	(Dietrich et al. 2014)	
<i>Blattella germanica</i>	A	8F-530R	454 Roche pyroseq.	No data	0.2	41	24	4.0	0.0	30	0.0	0.2	0.0	0.4	0.2	(Pérez-Cobas et al. 2015)
	B	515F-806R	Illumina MiSeq	Greengenes 13.8	0.2	48	25	0.4	1.6	20	0.03	0.2	0.7	0.1	3.8	(Kakumanu et al. 2018)
	C	V4 region	Illumina MiSeq	Greengenes 13.8	0.00	33	10	0.0	0.0	47	0.0	0.0	0.0	2.1	7.9	(Pietri et al. 2018)
	D	V3-V4 region	Illumina MiSeq	SILVA v.119	0.2	48	19	4.2	1.9	17	0.0	0.0	0.0	0.0	9.8	(Rosas et al. 2018)
	E	515F-806R	Illumina MiSeq	Greengenes 2013	1.3	28	28	6.5	3.8	23	0.3	1.7	0.8	0.7	5.9	(Tinker and Ottesen 2020)
<i>Byrsotria fumigata</i>	343F-784R	Illumina MiSeq	DictDb v.3.0	1.7	23	41	0.0	0.8	6.6	1.7	0.8	1.7	0.0	23	(Mikaelyan et al. 2015)	
<i>Cryptocercus punctulatus</i>	A	343F-784R	454 Roche pyroseq.	DictDb v.2.3	4.8	30	40	0.0	2.7	4.4	8.4	0.8	0.0	1.2	7.7	(Dietrich et al. 2014)
<i>Cryptocercus punctulatus</i>	B	8F-1391R	Sanger	GenBank	7.4	26	33	0.0	0.0	19	3.2	2.6	1.8	2.1	4.9	(Berlanga et al. 2009)
<i>Diploptera punctata</i>	A	343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.5	31	36	7.1	2.9	14	0.04	6.0	0.0	0.4	2.1	(Dietrich et al. 2014)
<i>Diploptera punctata</i>	B	515F-806R	Illumina MiSeq	SILVA v.123	1.9	27	38	0.9	1.7	15	0.04	1.5	1.2	0.3	12	(Jennings et al. 2019)
<i>Diploptera punctata</i>	C	515F-806R	Illumina MiSeq	Greengenes 2013	1.5	26	35	0.8	1.3	23	0.2	7.3	0.5	0.3	4.1	(Tinker and Ottesen 2020)
<i>Elliptorhina chopardi</i>	343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.5	35	47	2.3	1.3	9.4	0.7	1.0	0.0	0.0	2.8	(Dietrich et al. 2014)	
<i>Ergaula capucina</i>	A	343F-784R	454 Roche pyroseq.	DictDb v.2.3	2.0	23	56	0.3	1.6	12	1.0	0.8	0.0	0.0	3.2	(Dietrich et al. 2014)
<i>Ergaula capucina</i>	B	343F-784R	Illumina MiSeq	DictDb v.3.0	0.0	28	40	0.0	0.0	16	8.0	0.0	0.0	0.0	8.0	(Mikaelyan et al. 2015)
<i>Ergaula capucina</i>	C	515F-806R	Illumina MiSeq	Greengenes 2013	5.1	17	51	1.0	1.9	14	0.3	0.8	1.2	0.1	6.6	(Tinker and Ottesen 2020)
<i>Ergaula pilosa</i>	515F-806R	Illumina MiSeq	Greengenes 2013	3.5	12	49	0.2	4.0	13	0.3	2.2	2.6	0.6	6.5	(Tinker and Ottesen 2020)	

<i>Eublaberus posticus</i>	343F-784R	454 Roche pyroseq.	DictDb v.2.3	3.3	24	45	2.1	2.8	8.8	1.8	1.8	0.0	0.2	10.2	(Dietrich et al. 2014)
<i>Eurycotis floridana</i>	343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.2	39	42	2.6	2.0	8.2	0.8	0.4	0.0	1.3	3.5	(Dietrich et al. 2014)
<i>Gromphadorhina portentosa</i>	515F-806R	Illumina MiSeq	Greengenes 2013	1.1	30	31	1.0	1.5	24	0.2	3.1	1.0	0.6	10.1	(Tinker and Ottesen 2020)
<i>Lucihormetica verrucosa</i>	515F-806R	Illumina MiSeq	Greengenes 2013	5.8	17	36	3.1	1.1	23	0.7	0.8	1.8	1.4	5.9	(Tinker and Ottesen 2020)
<i>Nauphoeta cinerea</i>	515F-806R	Illumina MiSeq	Greengenes 2013	3.6	39	24	0.6	4.2	17	0.6	3.1	0.6	1.0	6.4	(Tinker and Ottesen 2020)
<i>Opisthoplatia orientalis</i>	343F-784R	454 Roche pyroseq.	DictDb v.2.3	1.4	27	32	3.1	3.8	14	1.9	8.8	0.0	2.5	5.5	(Dietrich et al. 2014)
<i>Oxyhaloa deusta</i>	515F-806R	Illumina MiSeq	Greengenes 2013	1.8	29	26	2.1	2.8	25	0.1	4.7	1.1	2.2	8.5	(Tinker and Ottesen 2020)
<i>Panchlora sp.</i>	343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.7	36	18	3.7	0.9	27	0.6	0.4	0.0	0.1	13	(Dietrich et al. 2014)
<i>Panchlora viridis</i>	515F-806R	Illumina MiSeq	Greengenes 2013	3.7	19	20	1.0	3.0	38	1.3	0.3	3.0	0.0	3.9	(Tinker and Ottesen 2020)
<i>Panesthia angustipennis</i>	A 343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.4	33	41	0.2	2.6	3.5	0.9	7.0	0.0	3.0	8.4	(Dietrich et al. 2014)
<i>Panesthia angustipennis</i>	B 343F-784R	Illumina MiSeq	DictDb v.3.0	3.0	40	36	0.0	3.8	11	0.0	0.8	1.5	0.0	3.9	(Mikaelyan et al. 2015)
<i>Paraplecta sp. "Kenya"</i>	515F-806R	Illumina MiSeq	Greengenes 2013	2.9	21	30	1.8	2.7	30	0.2	1.1	1.2	0.6	2.9	(Tinker and Ottesen 2020)
<i>Parcoblatta fulvescens</i>	515F-806R	Illumina MiSeq	Greengenes 2013	0.9	35	34	4.4	1.6	19	0.04	0.6	1.0	0.0	5.3	(Tinker and Ottesen 2020)
<i>Periplaneta americana</i>	A 27F-907R	Sanger	No data	0.0	27	47	0.0	0.0	19	0.0	1.7	0.0	0.3	10	(Bertino-Grimaldi et al. 2013)
	B 515F-806R	Illumina MiSeq	Greengenes 2013	0.0	43	32	0.5	0.4	11	0.0	0.8	1.8	0.5	8.7	(Tinker and Ottesen 2016)
	C 515F-806R	Illumina MiSeq	Greengenes 2013	0.9	32	35	0.3	1.8	18	0.3	1.3	1.2	0.5	6.9	(Tinker and Ottesen 2020)
<i>Periplaneta fuliginosa</i>	515F-806R	Illumina MiSeq	Greengenes 2013	0.1	42	24	2.8	2.6	18	0.2	1.7	1.2	0.5	3.4	(Tinker and Ottesen 2020)
<i>Periplaneta japonica</i>	V3-V4 region	Illumina MiSeq	No data	0.6	37	40	2.0	0.5	15	0.1	0.08	0.8	0.4	6.9	(Leite-Vicente et al. 2018)
<i>Polyphaga aegyptiaca</i>	515F-806R	Illumina MiSeq	Greengenes 2013	1.5	23	44	0.4	2.0	17	0.2	1.8	0.6	0.6	8.9	(Tinker and Ottesen 2020)
<i>Pycnoscelus surinamensis</i>	A 343F-784R	Illumina MiSeq	DictDb v.3.0	4.0	23	36	0.0	1.0	17	0.0	1.0	1.0	0.0	17	(Mikaelyan et al. 2015)
	B 504F-711R	Illumina MiSeq	DictDb v.3.0	4.1	27	39	0.3	6.5	15	0.1	5.1	0.1	0.7	2.1	(Richards et al. 2017)

	C	515F-806R	Illumina MiSeq	Greengen es 2013	5.2	20	34	4.2	1.1	26	0.3	2.0	2.0	0.5	4.7	(Tinker and Ottesen 2020)
<i>Rhyparobia maderae</i>		343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.6	31	36	5.5	1.7	14	1.1	4.7	0.0	2.3	3.1	(Dietrich et al. 2014)
<i>Salganea esakii</i>		343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.6	36	42	0.2	1.6	4.3	1.1	2.7	0.0	1.2	10.3	(Dietrich et al. 2014)
<i>Schultesia lampyridiformis</i>	A	343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.6	43	32	2.2	2.4	13	1.1	2.2	0.0	0.4	3.1	(Dietrich et al. 2014)
<i>Schultesia lampyridiformis</i>	B	515F-806R	Illumina MiSeq	Greengen es 2013	2.2	28	29	2.1	4.1	24	0.1	2.5	0.3	0.7	7.0	(Tinker and Ottesen 2020)
<i>Shelfordella lateralis</i>	A	343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.5	43	38	0.7	1.4	8.8	1.1	0.9	0.0	1.2	4.5	(Dietrich et al. 2014)
	B	343F-784R	454 Roche pyroseq.	SILVA v.102	2.0	26	44	4.2	2.8	12	0.4	1.6	0.0	2.1	4.9	(Schauer et al. 2014)
	C	343F-784R	Illumina MiSeq	DictDb v.3.0	1.5	37	43	0.8	2.3	9.2	0.0	0.8	1.5	0.0	3.9	(Mikaelyan et al. 2015)
	D	343F-784R	454 Roche pyroseq.	DictDb v.3.0	1.1	42	32	1.5	3.4	12	0.8	0.03	0.2	0.4	6.6	(Mikaelyan et al. 2016)
<i>Symploce macroptera</i>		343F-784R	454 Roche pyroseq.	DictDb v.2.3	0.3	43	29	0.34	5.7	14	1.9	2.6	0.0	0.3	2.4	(Dietrich et al. 2014)
<i>Symploce pallens</i>		515F-806R	Illumina MiSeq	Greengen es 2013	1.4	39	30	3.9	1.1	17	0.2	0.9	2.5	0.8	3.2	(Tinker and Ottesen 2020)
<i>Therea olegrandjeani</i>		515F-806R	Illumina MiSeq	Greengen es 2013	1.5	18	56	3.3	1.3	12	0.1	1.4	0.8	0.3	5.3	(Tinker and Ottesen 2020)

The data presented here was either extracted directly from the supplementary information of the published papers, or was obtained from the authors, and in some cases the data was calculated from the tables and plots in the original publications.

Online Resource 4. Average composition of the bacterial community of cockroaches at the level of bacterial phyla according to the gut compartment (foregut/crop, midgut, hindgut)-

Cockroach		16S rRNA region	Sequencing platform	Taxonomic database	Organ	Composition by phyla										References	
						Actinob.	Bacter.	Firmic.	Fusobac.	Plancto.	Proteob.	Spiroc.	Synerg.	Teneri.	Verruc.	Other	
<i>Blattella germanica</i>		515F-907R	Illumina MiSeq	No data	foregut	0	13	48	0.7	0.9	34	0	0	0.5	0	3.2	(Zhang and Yang 2019)
					midgut	0	7.2	34	2.8	0.5	54	0	0	0.2	0	2.0	
					hindgut	0	50	29	3.2	4.9	9.3	0	0	0.4	0	2.8	
<i>Byrsotria fumigata</i>		343F-784R	Illumina MiSeq	DictDb v.3.0	crop	13	1.6	72	1.1	0.1	11	0.5	0	0.1	0	0.6	(Lampert et al. 2019)
					midgut	3.2	29	44	0.5	0.2	21	0.7	0	0.1	0	1.3	
					hindgut	3.8	27	55	1.0	2.1	7.7	0.5	0.3	0.1	0	2.5	
<i>Ergaula capucina</i>		343F-784R	Illumina MiSeq	DictDb v.3.0	crop	21	14	52	0	0.2	10	0.2	0	0.4	0.1	2.1	(Lampert et al. 2019)
					midgut	6.9	26	49	0.1	0.6	14	0.5	0.1	1.2	0	1.6	
					hindgut	5.5	34	51	0	0.7	4	0.1	0.9	0.3	0	3.5	
<i>Panchlora</i> sp.	A	V6-V8 region	454 Roche pyroseq	NCBI 16S rRNA	foregut	1.2	1.6	7.7	0.03	0.007	89	0	0.06	0	0.007	0.4	(Gontang et al. 2017)
					midgut	2.8	1.7	33	0.2	0.007	62	0	0.06	0	0.01	0.23	
					hindgut	1.2	18	20	1.2	0	51	0.09	2.7	0	0.1	5.7	
	B	V6-V8 region	454 Roche pyroseq	NCBI 16S rRNA	foregut	0.1	0.3	4.6	0.1	0	93	0.3	0	0.60	0	1.0	(Gontang et al. 2017)
					midgut	0.1	0.9	39	0.7	0	54	1.0	0.002	1.9	0	2.4	
					hindgut	1.8	29	19	1.4	0.1	44	0.8	0.8	1.7	0.1	1.3	
<i>Panesthia angustipennis</i>		V3-V4 region	454 Roche pyroseq	DictDb	crop	4.0	5.4	5.9	0.01	0.5	65	1.0	0.1	0	3.5	14.6	(Bauer et al. 2015)
					midgut	0.33	15	57	4.8	0.6	18	0.05	0.5	0	0.9	2.8	
					hindgut	1.0	23	42	0.2	3.4	3.3	0.7	13	0	3.9	3.2	
<i>Pycnoscelus surinamensis</i>		343F-784R	Illumina MiSeq	DictDb v.3.0	crop	16	18	23	0.1	0.7	40	0.4	0.2	0.2	0.1	1.3	(Lampert et al. 2019)
					midgut	0.9	22	24	2.9	0.6	10	37	0.7	0.1	0	1.8	
					hindgut	1.5	45	17	0.2	1.6	32	0.4	0.4	0.1	0.2	1.6	
<i>Salganea esakii</i>		V3-V4 region	454 Roche pyroseq	DictDb	crop	1.9	4.7	27	0.04	1.9	38	0	0.2	0	9.4	17	(Bauer et al. 2015)
					midgut	1.4	3.1	64	6.1	0.5	16	0.01	0.04	0	1.2	7.7	
					hindgut	0.7	31	41	0.2	2.2	4.2	1.1	5.2	0	1.5	12.9	

The data presented here was either extracted directly from the supplementary information of the published papers, or was obtained from the authors, and in some cases the data was calculated from the tables and plots in the original publications.

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